

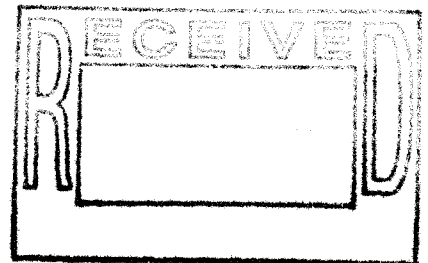


Rocky Mountain
Remediation Services, L.L.C.
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RF/RMRS-97-020

Reconnaissance Level Characterization Report For The T690 Cluster Trailer Removal Project

AUGUST 1997



REVIEWED FOR CLASSIFICATION/UCM

By [Signature]

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RECONNAISSANCE LEVEL CHARACTERIZATION REPORT

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ACRONYMS

DOE/RFFO	U. S. Department of Energy/Rocky Flats Field Office
DQO	Data Quality Objective
EPA	U. S. Environmental Protection Agency
GHP	Gobbell Hays Partners
IWCP	Integrated Work Control Program
NISH	National Institute of Safety and Health
NIST	National Institute of Standards and Technology
OSHA	Occupational Safety and Health Administration
PMP	Project Management Plan
RESI	Reservoirs Environmental Services, Inc.
RFETS	Rocky Flats Environmental Technology Site
SOW	Statement of Work

RECONNAISSANCE LEVEL CHARACTERIZATION REPORT

1.0 INTRODUCTION

The Department of Energy (DOE) has established a goal of reducing the total built square footage at the Rocky Flats Environmental Technology Site (RFETS) by 2% in FY97. RFETS management has determined that the T690 Trailer Cluster will be removed to help meet the 2% goal. This project will help RFETS management reduce operating costs and hazards. Two other trailers and one wooden shed will be removed as a part of this project, T371G, T444A, B663C.

The T690 Trailer Cluster is comprised of prefabricated trailers (A-M) located in the south central portion of RFETS. Installation of the trailers commenced in 1963 and continued through 1986. The trailers were installed as single units with the exception of A (16 units), B (five units), N (three units), and E, G, M and T371G (two units). The T444A is an old shower facility, and B663C is a wooden shed in the lay-down yard. All trailers are currently used as office trailers; Trailers J, K, and L also serve as laboratory facilities. No Individual Hazardous Substance Site, Areas of Concern, or Under Building Contamination have been identified with respect to the removal of the T690 Cluster facilities.

1.1 PURPOSE

The purpose of this Reconnaissance Level Characterization Report is to present all of the available data and process information related to operations at the T690 Trailer Cluster, in an effort to characterize the subject facilities. Characterization includes identification of the type, quantity, condition, and location of both confirmed and potential sources of radioactive and hazardous materials within the Cluster. The following facility information incorporates the T690 Trailer Cluster removal project files established during the reconnaissance characterization, including pertinent data from various sources. This report is to serve as a practical reference during removal operations.

This information provides a baseline of information of the hazards within the T690 Cluster. The baseline will aid the DOE/RFEO in determining if a Decommissioning Operations Plan is required for the decommissioning effort. Note that T371G, T444A, and B663C are included in this effort.

1.2 SCOPE

This report is prepared in support of the T690 Cluster characterization and removals, for the U.S. Department of Energy at the RFETS located near Golden, Colorado. Figure 1-1 shows the location of the T690 Cluster facilities. Figure 1-2 shows the plan view of the T690 area. The information presented in this report specifically defines the removal phase of the T690 Cluster.

The information presented in this report is specific to the T690 Cluster. The report contains information obtained during historical document reviews, personnel interviews and characterization information generated in support of this document.

1.3 METHODOLOGY

As part of this investigation, comprehensive physical inspections of all accessible areas of the T690 Cluster were conducted during March 1997. The primary purpose of these inspections were:

- to confirm the accuracy of file documentation of as-built or modified facility construction equipment installations and general facility conditions,
- obtain volume estimates for wastes that will be generated during removal activities,
- identify equipment, structures, process lines, and associated items that will require hazardous and/or radioactive surveys and analytical sampling to further characterize the Cluster,
- identify potential sources of lead and asbestos,
- identify potential chemical contamination, (chemical contamination would be identified by signs of staining or unusual smell),
- identify physical hazards (such as tripping hazards, loose/missing handrails, etc.).

1.4 SUMMARY

After the project walkdown (see Section 1.3) an assessment of the necessity to complete further characterization to identify the type of contaminants to be sampled was determined using the Data Quality Objective (DQO) process. The results of the DQO process is documented in the Reconnaissance Level Characterization Plan (RLCP) for the T690 Cluster. This document, (RLCR) summarizes the characterization information gathered and obtained by implementing the RLCP. As a part of the RLCP examination, a comprehensive survey of historical records was undertaken to determine the location and character of any radioactive and hazardous contaminants present in the area. A trailer by trailer compilation of relevant process knowledge and characterization information is presented in Section 3.0. The following is a summary of characterization information:

- No physical hazards were identified which would endanger the trailers occupants or construction workers.
- Some chemicals were identified as being stored in the trailers. Most of the stored chemicals were cleaning solutions. All the chemicals were relocated or disposed of as excess chemicals except those in T690J. T690J is being relocated at RFETS and will be used as a lab facility. No chemical residues or chemical smell was identified in the trailers.
- Asbestos containing material is identified in table located in Attachment 7.2.
- Paint was found to contain lead, zinc and chromium.
- No radioactive contamination was identified in any of the trailers. (See Table 3.3)

FIGURE 1-1 SITE MAP
The 690 Trailer Cluster

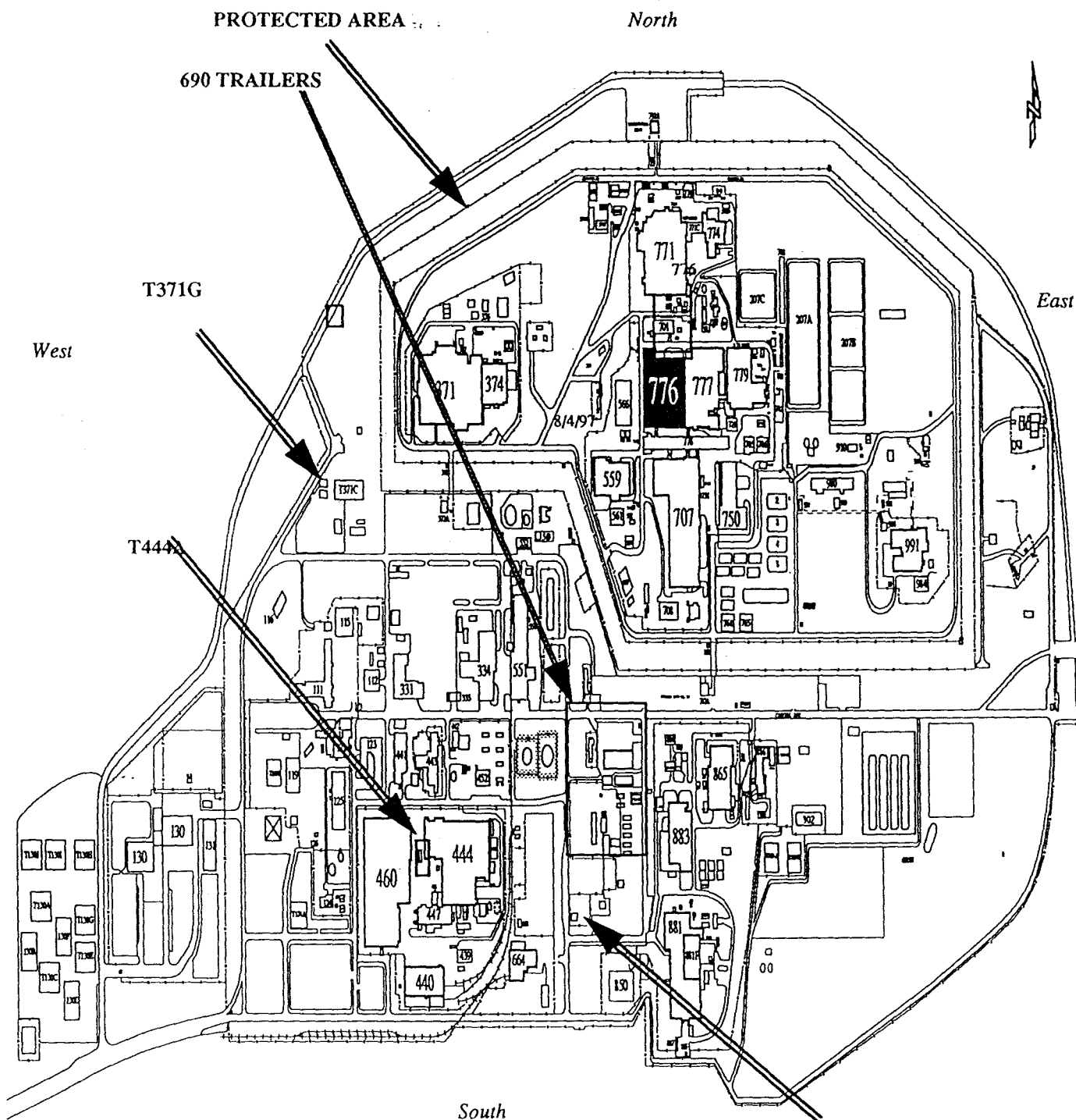
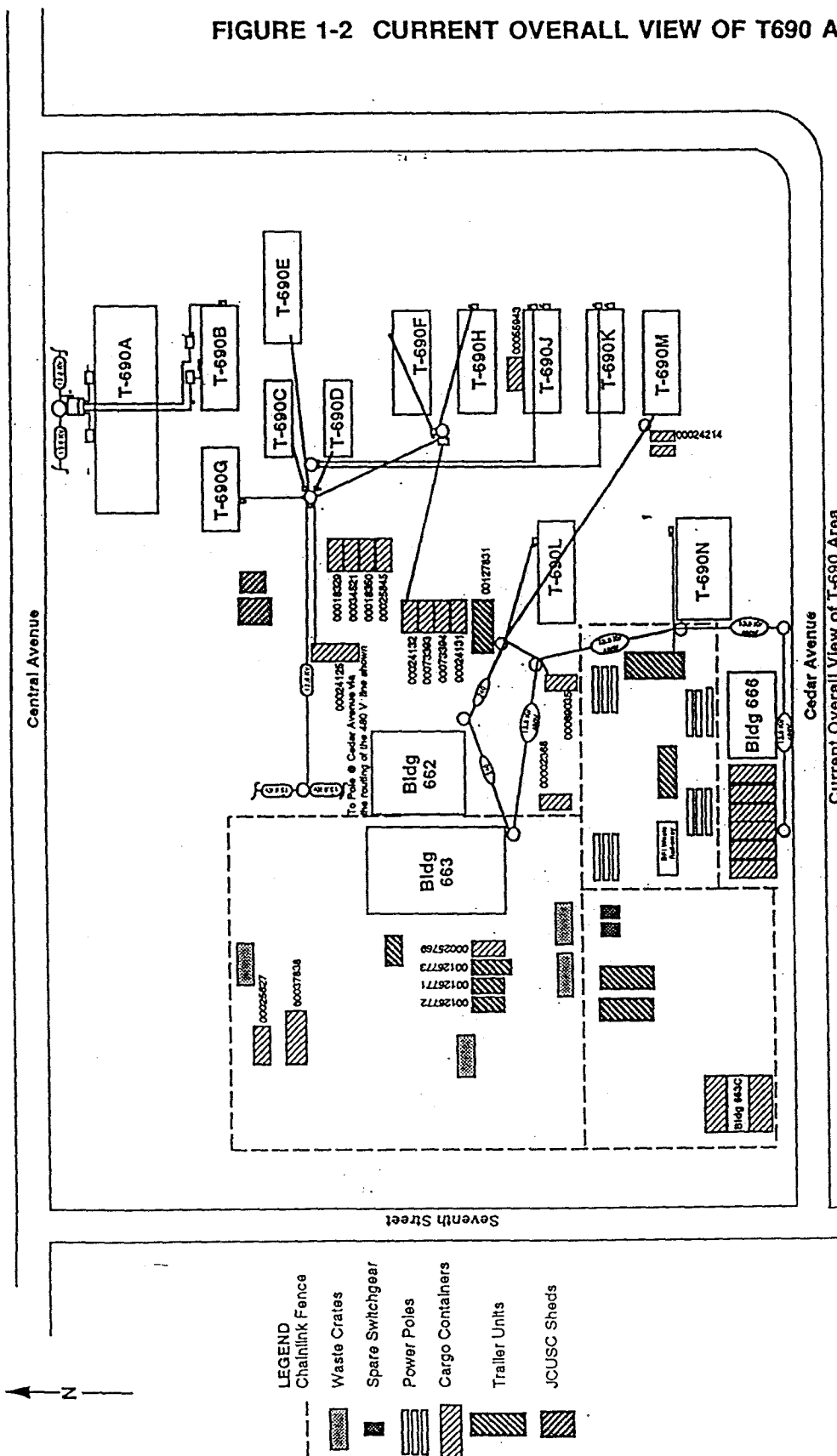


FIGURE 1-2 CURRENT OVERALL VIEW OF T690 AREA



2.0 ANALYTICAL TESTING

Specific rationale for the Sampling and Analysis was presented in the Reconnaissance Level Characterization Plan for the T690 Cluster. Sample and survey results are presented in Section 3.0 of this document.

2.1 WASTE MANAGEMENT

Materials from removal activities, including, masonry units, and lumber, will be generated as waste and is characterized prior to disposition. Procedures are in place to insure that sampling and analysis of generated wastes will be in accordance with the U. S. Environmental Protection Agency (EPA) and State regulations. Hazardous and radioactive contaminant data is acquired, to a level consistent with regulatory and procedural requirements, for wastes that will be generated. The requirements for characterization of hazardous waste is specified in several RFETS waste management procedures, based on requirements established primarily by 40 CFR 261 and 6 CCR 1007-3, 261. Waste materials demonstrating hazardous or radioactive characteristics are managed in accordance with the Low-Level or Hazardous Waste Requirements Manual.

2.2 INDUSTRIAL HYGIENE

The potential for exposure to hazardous or radioactive substances will be evaluated, prior to conducting the operation, according to Occupational Safety and Health Act (OSHA) and National Institute of Occupational Safety and Health (NIOSH) requirements. A Demolition Plan will be written by the subcontractor. This requirement is driven by OSHA 1926.62 for lead and driven by other sections of OSHA for other constituents. Data is acquired for contaminants associated with equipment, building materials, residuals within construction areas, or other potential sources of hazardous exposure to the workers. Preliminary screening and sampling is required in decommissioning areas for materials which the workers may be exposed. Trailers designated for offsite transport will be surveyed for radiological contamination. The documentation will be included in the project files for IWCP closeout. Instructions for completing reconnaissance level radiological surveys have been included as Attachment 7.1. Trailers will be decommissioned according to Engineering and Administrative Controls, Decontamination, or use of Personal Protective Equipment, as implemented under appropriate plans and procedures to meet OSHA requirements.

3.0 RECONNAISSANCE SURVEY RESULTS

3.1 ASBESTOS

In 1994, EG&G IH&S Team members inspected the T690 Cluster for asbestos as a part of the site-wide assessment. The survey results are filed in T452G. Attachment 7.2, Table 7.2.2 summarizes all asbestos information by the three separate inspections/evaluations. Table 7.2.1, Bulk Sample Data Table contains additional asbestos sampling obtained to complete asbestos characterization of the overall cluster. All work was in accordance with the Asbestos Hazard Emergency Response Act (AHERA).

In May 1996, Gobbell-Hays Partners, Inc. performed an asbestos and lead inspection of the T690A trailer. Results are included in Attachment 7.3. The purpose of the survey was to prepare for the demolition and/or removal of the trailer.

A follow-up survey of all trailers was conducted by Rocky Mountain Remediation Services, L. L. C. project team members, during March 1997, to verify the initial survey data and identify areas in need of additional sampling. All potential Asbestos Containing Materials were reevaluated and sampled according to guidelines established by the Asbestos Hazard Emergency Response Act. Samples were submitted to Reservoirs Environmental Services, Inc. (RESI) for analysis by Polarized Light Microscopy. The RMRS follow-up survey information serves as an addendum to the existing asbestos characterization and is contained in Attachment 7.2.

3.2 LEAD

Bulk paint samples collected in May 1996 from T690A and in 1997 from T444A were submitted to RESI for lead analysis utilizing Atomic Absorption Spectroscopy (EPA method SW846-3050A/7420). Analysis results indicate that the samples collected from ceiling, door, siding, skirting, wall, and stair surfaces contained low concentrations of lead. Bulk lead sample analyses results are included in Attachment 7.3.

3.3 RADIOLOGICAL SURVEYS

Specific instructions for Radiological Surveys for the trailers were outlined in the Reconnaissance Level Characterization Plan for the T690 Cluster. Results from these surveys demonstrated that all results were below detection limits. Survey data is available in the project files, and is summarized in Table 3.3. The Radiological survey results in Table 3.3 were compared to the "unrestricted release limits" in Table 3.4 and found to be below the listed values. A reading of removable alpha of <18 is less than the removable limit of 20 dpm/100 cm² listed, <205 for beta/gamma is less than 1000 dpm/100 cm², <60 for total alpha is less than 100 for fixed + removable dpm/100 cm² and <455 total beta/gamma is less than 5000 dpm/100 cm², as listed in Table 3.4.

RECONNAISSANCE LEVEL CHARACTERIZATION
REPORT FOR THE T690 CLUSTER
TRAILER REMOVAL PROJECT

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TABLE 3.3 RADIOLOGICAL SURVEY DATA

Item	# of Alpha/Beta Swipes	# of Direct Alpha/Beta Measurements	REMOVABLE Alpha dpm/100 cm ²	REMOVABLE Beta dpm/100 cm ²	TOTAL Alpha dpm/100 cm ²	TOTAL Beta/Gamma dpm/100 cm ²	Below Unrestricted Limits Release
T690A	10 biased on floor	10 biased on floor	<18	<205	<60	<455	yes
T690B	10 biased on floor	10 biased on floor	<18	<205	<60	<455	yes
T690C	5 biased on floor	5 biased on floor	<18	<205	<60	<455	yes
T690D	5 biased on floor	5 biased on floor	<18	<205	<60	<455	yes
T690E	5 biased on floor	5 biased on floor	<18	<205	<60	4 reading <455 1 reading <654	yes
T690F	5 biased on floor	5 biased on floor	<18	<205	<60	<455	yes
T690G	5 biased on floor	5 biased on floor	<18	<205	<60	<455	yes
T690H	5 biased on floor	5 biased on floor	<18	<205	<60	<455	yes
T690K	5 biased on floor	5 biased on floor	<18	<205	<60	<455	yes
T690L	5 biased on floor	5 biased on floor	<18	<205	<60	<455	yes
T690M	5 biased on floor	5 biased on floor	<18	<205	<60	<455	yes
T371G	5 biased on floor	5 biased on floor	<18	<205	<60	<455	yes
T444A	5 biased on floor	5 biased on floor	<18	<205	<60	<455	yes
B663C	5 biased on floor	5 biased on floor	<18	<205	<60	<455	yes

Radiological survey data forms are available on request.

TABLE 3.4 SUMMARY OF CONTAMINATION VALUES FOR UNRESTRICTED RELEASE

RADIONUCLIDE (1)	Average Total (Fixed + Removable) Contamination dpm/100cm ² (2), (3), (4)	Maximum Total (Fixed + Removable) dpm/100cm ² (2), (4), (5)	Removable dpm/100cm ² (2), (4), (6)
Transuranics, Ra-226, Ra-228, Th-228, Pa-231, Ac-227, I-125, I-129	100	300	20
Th-Natural, Th-232, Sr-90, Ra-223, Ra-224, U-232, I-131, I-133	1,000	3,000	200
U-Natural, U-235, U-238, and associated decay products, alpha emitters	5,000	15,000	1,000
Beta-gamma emitters (radionuclides with decay modes other than alpha emission or spontaneous fission) except Sr-90 and others noted above (7)	5,000	15,000	1,000

NOTES:

- (1) Where surface contamination by both alpha and beta-gamma emitting radionuclides exists, the limits established for alpha and beta-gamma emitting radionuclides should apply independently.
- (2) As used in this table, disintegrations per minute (dpm) is defined as the rate of emission by radioactive material as determined by correcting the counts per minute measured by an appropriate detector for background, efficiency, and geometric factors associated with the instrumentation.
- (3) Measurements of average contamination should not be averaged over an area of more than 1 meter². For objects with a total surface area of less than 1 meter², the average should be derived for each object.
- (4) The average and maximum dose rates associated with surface contamination resulting from beta-gamma emitters should not exceed 0.2 mRad/hour and 1.0 mRad/hour, respectively at 1 cm.
- (5) The maximum contamination level applies to an area of not more than 100 cm².
- (6) The amount of removable material per 100 cm² of surface area should be determined by wiping an area of that size with a dry filter of soft absorbent paper, applying moderate pressure, and measuring the amount of radioactive material on the wipe with an appropriate instrument of known efficiency. When removable contamination on objects of surface area less than 100 cm² is determined, the activity per unit area should be based on the actual area and the entire surface should be wiped. Except for transuranics and Ra-228, Ac-227, Th-228, Th-230, Pa-231, and alpha emitters, it is not necessary to use swiping techniques to measure removable contamination levels if direct scan surveys indicate the total residual surface contamination levels are within the limits for removable contamination.
- (7) This category of radionuclides includes mixed fission products, including the Sr-90 which is present in them. It does not apply to Sr-90 which has been separated from the other fission products or mixtures where the Sr-90 has been enriched.

4.0 DATA QUALITY ASSESSMENT

All sampling data were reviewed and considered valid and thereby usable, according to sampling, analytical, and record keeping procedures. DQOs for the characterization have been satisfied, in accordance with the requirements outlined in the Reconnaissance Level Characterization Plan.

5.0 DECISIONS MADE

Minimal wastes will be generated as a result of the removal of the T690 Trailer Cluster. Wastes, to be generated by the project, have been characterized as sanitary. The subcontractor will be responsible for the removal of all skirting material from the facility to be reused at a later date. Scrap metal removed from the Trailer Cluster (i.e., excavated conduit) will be recycled to the greatest extent possible.

6.0 REFERENCES (NOT ATTACHED)

Reconnaissance Level Characterization Report for the Building T690 Removal Project, April 2, 1997.

Project Execution Plan for the 690 Trailer Cluster, May 1997.

DOE Historical Release Report, 1992.

Trailer 690 Cluster Project Management Plan (PMP), Draft, March 18, 1997.

7.0 ATTACHMENTS

- 7.1 Building 690 Trailer Cluster Decommissioning Project Characterization Radiological Instructions
- 7.2 Asbestos Characterization Report, Addendum to T690 Trailer Cluster, April 2, 1997.
- 7.3 Environmental Survey Draft Report for J.A. Jones Construction Service, T690 Office Trailers, Rocky Flats, May 9, 1996.
- 7.4 Reconnaissance Level Characterization Plan, Effective Date: July 30, 1997.

ATTACHMENT 7.1 BUILDING 690 TRAILER CLUSTER DECOMMISSIONING
PROJECT CHARACTERIZATION RADIOLOGICAL
INSTRUCTIONS

Item/Area Description ¹	Radiological Survey		Scan Survey	Special Instructions	
	# of Alpha/Beta Swipes	# of Direct Alpha/Beta Measurements			
T-690A	10 biased measurements on floor surfaces	10 biased measurements on floor surfaces	N/A	Obtain biased measurements on interior floor surfaces of the trailer(s).	Obtain biased measurements on interior floor surfaces of the trailer(s).
T-690B	10 biased measurements on floor surfaces	10 biased measurements on floor surfaces	N/A	Obtain biased measurements on interior floor surfaces of the trailer(s).	Obtain biased measurements on interior floor surfaces of the trailer(s).
T-690C	5 biased measurements on floor surfaces	5 biased measurements on floor surfaces	N/A	Obtain biased measurements on interior floor surfaces of the trailer(s).	Obtain biased measurements on interior floor surfaces of the trailer(s).
T-690D	5 biased measurements on floor surfaces	5 biased measurements on floor surfaces	N/A	Obtain biased measurements on interior floor surfaces of the trailer(s).	Obtain biased measurements on interior floor surfaces of the trailer(s).
T-690E	5 biased measurements on floor surfaces	5 biased measurements on floor surfaces	N/A	Obtain biased measurements on interior floor surfaces of the trailer(s).	Obtain biased measurements on interior floor surfaces of the trailer(s).
T-690F	5 biased measurements on floor surfaces	5 biased measurements on floor surfaces	N/A	Obtain biased measurements on interior floor surfaces of the trailer(s).	Obtain biased measurements on interior floor surfaces of the trailer(s).
T-690G	5 biased measurements on floor surfaces	5 biased measurements on floor surfaces	N/A	Obtain biased measurements on interior floor surfaces of the trailer(s).	Obtain biased measurements on interior floor surfaces of the trailer(s).
T-690H	5 biased measurements on floor surfaces	5 biased measurements on floor surfaces	N/A	Obtain biased measurements on interior floor surfaces of the trailer(s).	Obtain biased measurements on interior floor surfaces of the trailer(s).
T-690I	5 biased measurements on floor surfaces	5 biased measurements on floor surfaces	N/A	Obtain biased measurements on interior floor surfaces of the trailer(s).	Obtain biased measurements on interior floor surfaces of the trailer(s).
T-690J	5 biased measurements on floor surfaces	5 biased measurements on floor surfaces	N/A	Obtain biased measurements on interior floor surfaces of the trailer(s).	Obtain biased measurements on interior floor surfaces of the trailer(s).
T-690K	5 biased measurements on floor surfaces	5 biased measurements on floor surfaces	N/A	Obtain biased measurements on interior floor surfaces of the trailer(s).	Obtain biased measurements on interior floor surfaces of the trailer(s).
T-690L	5 biased measurements on floor surfaces	5 biased measurements on floor surfaces	N/A	Obtain biased measurements on interior floor surfaces of the trailer(s).	Obtain biased measurements on interior floor surfaces of the trailer(s).
T-690M	5 biased measurements on floor surfaces	5 biased measurements on floor surfaces	N/A	Obtain biased measurements on interior floor surfaces of the trailer(s).	Obtain biased measurements on interior floor surfaces of the trailer(s).
T-690N	5 biased measurements on floor surfaces	5 biased measurements on floor surfaces	N/A	Obtain biased measurements on interior floor surfaces of the trailer(s).	Obtain biased measurements on interior floor surfaces of the trailer(s).
T-690O	5 biased measurements on floor surfaces	5 biased measurements on floor surfaces	N/A	Obtain biased measurements on interior floor surfaces of the trailer(s).	Obtain biased measurements on interior floor surfaces of the trailer(s).
T-690P	5 biased measurements on floor surfaces	5 biased measurements on floor surfaces	N/A	Obtain biased measurements on interior floor surfaces of the trailer(s).	Obtain biased measurements on interior floor surfaces of the trailer(s).
T-690Q	5 biased measurements on floor surfaces	5 biased measurements on floor surfaces	N/A	Obtain biased measurements on interior floor surfaces of the trailer(s).	Obtain biased measurements on interior floor surfaces of the trailer(s).
T-690R	5 biased measurements on floor surfaces	5 biased measurements on floor surfaces	N/A	Obtain biased measurements on interior floor surfaces of the trailer(s).	Obtain biased measurements on interior floor surfaces of the trailer(s).
T-690S	5 biased measurements on floor surfaces	5 biased measurements on floor surfaces	N/A	Obtain biased measurements on interior floor surfaces of the trailer(s).	Obtain biased measurements on interior floor surfaces of the trailer(s).
T-690T	5 biased measurements on floor surfaces	5 biased measurements on floor surfaces	N/A	Obtain biased measurements on interior floor surfaces of the trailer(s).	Obtain biased measurements on interior floor surfaces of the trailer(s).
T-690U	5 biased measurements on floor surfaces	5 biased measurements on floor surfaces	N/A	Obtain biased measurements on interior floor surfaces of the trailer(s).	Obtain biased measurements on interior floor surfaces of the trailer(s).
T-690V	5 biased measurements on floor surfaces	5 biased measurements on floor surfaces	N/A	Obtain biased measurements on interior floor surfaces of the trailer(s).	Obtain biased measurements on interior floor surfaces of the trailer(s).
T-690W	5 biased measurements on floor surfaces	5 biased measurements on floor surfaces	N/A	Obtain biased measurements on interior floor surfaces of the trailer(s).	Obtain biased measurements on interior floor surfaces of the trailer(s).
T-690X	5 biased measurements on floor surfaces	5 biased measurements on floor surfaces	N/A	Obtain biased measurements on interior floor surfaces of the trailer(s).	Obtain biased measurements on interior floor surfaces of the trailer(s).
T-690Y	5 biased measurements on floor surfaces	5 biased measurements on floor surfaces	N/A	Obtain biased measurements on interior floor surfaces of the trailer(s).	Obtain biased measurements on interior floor surfaces of the trailer(s).
T-690Z	5 biased measurements on floor surfaces	5 biased measurements on floor surfaces	N/A	Obtain biased measurements on interior floor surfaces of the trailer(s).	Obtain biased measurements on interior floor surfaces of the trailer(s).

NOTES

¹ See attached map of building layout.
² Surveys to be performed in accordance with 4-K62-ROI-03 01, "Performance of Surface Contamination Surveys"; Other radiological references are 1-P73-HSP, 18-10, "Radioactive Material Transfer and Unrestricted Release of Property and Waste"; 4-S73-ROI-03 02, "Radiological Requirements for Unrestricted Release"; and 4-N83-REP-1108, "Radioactive Material Management Area (RMOMA) Determination".

REVIEW AND APPROVAL

Prepared By

[Signature]

Date 6/15/97

Reviewed By

[Signature]

Date 6/19/97

ATTACHMENT 7.2
ASBESTOS CHARACTERIZATION REPORT
ADDENDUM TO T690 TRAILER CLUSTER

Asbestos Characterization Report

ADDENDUM TO T690 CLUSTER

Rocky Flats Environmental Technology Site

Prepared by:

Scientific Ecology Group for

Rocky Mountain Remediation Services

**Revision 0
April 2, 1997**

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ASBESTOS LOCATION AND DESCRIPTION TABLE 7.2.2

ADDENDUM TO T690 INSPECTIONS

1.0 INTRODUCTION

This report is supplemental to the inspections performed by EG&G personnel in 1994 and the Gobbell Hays inspection performed in 1996. During the week of March 24-28, 1997 and March 31-April 4, 1997, the T690 Cluster, including trailers B through H, and J through N, T371G and T444A were re-evaluated to determine the locations and quantities of asbestos containing materials. The re-evaluation included the review of previous inspections and the physical inspection of the complex.

The asbestos inspection was conducted according to the guidelines set forth by the Asbestos Hazard Emergency Response Act (AHERA) and complies with the United States Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA) and State of Colorado regulations covering asbestos inspections.

In summary, the 1994 and subsequent 1996 inspections covered the usual suspected materials. Suspected materials missing or not identified from the original inspections included ceiling tile, pipe and wall insulation and roofing materials. Nineteen additional samples were acquired. All but two samples tested negative for asbestos. The positive samples were of the black roofing mastic sampled on T690B and T371G. Should this material be encountered on roofs of other trailers in this complex, it should be assumed to be asbestos containing.

Included in this report is the location and description of the additional materials sampled, the location, assessment and approximate amounts of the Asbestos Containing Materials (ACM) discovered during the supplemental sampling, and related documentation of the process. Each trailer is reported separately.

2.0 ASBESTOS SURVEY

Bulk samples were acquired to determine the presence of asbestos in building materials. Suspect materials were chosen based on historical significance or on the judgement of the accredited inspector. Each sample was assigned an individual number made up of the building number, the date the sample was acquired, the initials of the sampling technician, and a three digit number in sequence. All samples were acquired in a random manner representative of the suspected material.

All bulk samples were analyzed by Reservoirs Environmental Services, Inc. (RESI) of Denver, Colorado. RESI is accredited through the National Institute of Standards and Technology (NIST) and participates in the NIST National Voluntary Laboratory Accreditation Program (NVLAP) as required by the EPA. Bulk samples were analyzed by Polarized Light Microscopy (PLM) in compliance with guidelines established by the EPA 40 CFR 763, Subpart F, Appendix A. Asbestos concentrations were visually estimated and reported in percent by layer of each sample.

3.0 EVALUATION/UPDATE OF PREVIOUS INSPECTIONS

The T690 Cluster was inspected for asbestos in July 1994 by employees of the Health and Safety Department of EG&G. T690A was once again inspected by Gobbell Hays Partners (GHP) in 1996. The findings, including the inspection reports, were discovered through due diligence and interviews with RMRS and GHP staff who worked on the project. Contained herein is the findings of a review of the inspection documents. Each trailer is evaluated separately.

A Trailer: This trailer was also inspected in 1996 by GHP. No additional samples were necessary. ACM's discovered include floor tile, sheet vinyl flooring, and roofing sealer.

B Trailer: This trailer has floor tile testing positive from the 1994 inspection. A total of twelve additional samples of ceiling tile, roofing materials and cove base were acquired. The ceiling tiles and cove base contained no detectable amounts of asbestos.

Addendum to Asbestos Inventory:

Approximately 130 square feet of black roofing mastic, located on the roof jacks (vents, ducts and other penetrations). Since this material was non-friable at the time of the inspection, no assessment was necessary.

C Trailer: The 1994 inspection discovered no asbestos. No additional samples were acquired.

D Trailer: The 1994 inspection discovered no asbestos. No additional samples were acquired.

E Trailer: The 1994 inspection discovered no asbestos. One additional sample of the roofing material was acquired. The roofing material sampled contained no detectable amounts of asbestos.

F Trailer: The 1994 inspection discovered no asbestos. No additional samples were acquired.

G Trailer: The 1994 inspection discovered no asbestos. No additional samples were required. Roofing tar assumed to be asbestos containing.

H Trailer: The 1994 inspection discovered no asbestos. No additional samples were acquired.

J Trailer: The 1994 inspection discovered no asbestos. No additional samples were acquired.

K Trailer: The 1994 inspection discovered asbestos containing floor tile. No additional samples were acquired.

L Trailer: The 1994 inspection discovered no asbestos. No additional samples were acquired.

M Trailer: The 1994 inspection discovered no asbestos. One sample of vapor barrier mastic on pipe insulation was acquired. This sample indicated no detectable levels of asbestos present.

N Trailer: This trailer was not included in the 1994 inspections. The 1990 manufacturing date precludes any sampling for asbestos. The manufacturer was called for information. Alan Koenig with G.E.Capital stated that this unit (#4480) did not have any asbestos containing materials installed.

T371G: This trailer was included in the 1994 inspections, which discovered no asbestos. A sample of the roofing tar was acquired, which tested positive for asbestos.

Addendum to Asbestos Inventory:

Approximately 100 square feet of roofing tar. This tar is used as a patching and sealing material on the metal covering. At the time of inspection, the tar was non-friable and in good condition, although the overall condition of the roof was not good.

The appropriate response action is to avoid contact with the roofing tar and monitor for any change in condition. Relocation of this trailer may require disturbance of this material and appropriate work practices should be followed.

T444A: This trailer was not included in the 1994 inspections. A subsequent inspection revealed the presence of miscellaneous and thermal systems insulation as suspect materials. Floor tile, drywall, ceiling panels and vapor barrier mastic materials were sampled. Laboratory analysis indicated no detectable levels of asbestos.

TABLE 7.2.1 ASBESTOS BULK SAMPLE DATA

Sample Number	Sample Description and Location	Lab Result
T690B-970325-MS-001	6' brown cove base and tan adhesive; from west office, east of safety glass office, east wall, 7' north of SE corner.	ND
T690B-970325-MS-002	Tan fibrous wall insulation, from west office, east of safety glass office, south wall, 3' west of SE corner, 4' from the floor.	ND
T690B-970325-MS-003	12" floor tile, beige/grey flecks and black mastic; from storage in west hall, 4' south of north wall, 3' west of east wall.	Archived, not analyzed.
T690B-970325-MS-004	4' x 8' ceiling panel, white with simulated wood grain and longitudinal scallops; from west hall, north wall, 13' east of west entry, 2" south of north wall.	ND
T690B-970325-MS-005	12" floor tile, beige with brown streaks and clear adhesive; from west trailers (2nd from west), at south entry, 1' north of south wall, 12' east of west wall.	Archived, not analyzed.
T690B-970325-MS-006	2' x 4' ceiling tile, white with large and small pin hole pattern; from east trailers, south-west office, 3' south of the north wall, 4' east of the west wall.	ND
T690B-970325-MS-007	4' x 8' ceiling panel, white, with simulated wood grain; from east trailers, north-east office, 4' south of north wall, 9' west of east wall.	ND
T690B-970325-MS-008	2' x 4' ceiling tile, white, with bird track pattern; from conference room, 6' south of north wall, 9' east of west wall.	ND
T690B-970325-MS-009	2' x 4' ceiling tile, white, with longitudinal grooves, large deep pin holes; from conference room, 9' east of west wall, 5' south of north wall.	ND
T690B-970325-MS-010	2' x 4' ceiling tile, white, with latitudinal grooves and pin holes; from main hall in east trailers, at main entry, 2' south of north wall, 4' east of west doorway.	ND
T690B-970325-MS-011	Tar paper, tar and white gravel shingle; from south edge of roof, 2' west of entry door #2.	ND
T690B-970331-MS-012	Tar roof mastic, from south edge of roof, 8' east of entry door #3 roof.	13%
T690E-970331-MS-001	Tar and white gravel shingle; from south edge, at SW corner of SW entry roof.	ND
T690M-970408-MS-001	Vapor barrier mastic, on water pipe insulation; from trailer crawlspace, at east access door, 2' west of east edge, 11' south of NE corner.	ND
T371G-970602-MS-001	Black tar roofing patch/sealer; from metal roof, 12 feet north of south edge, 20 feet east of west edge.	10%
T444A-970602-MS-001	12 in. floor tile, beige with grey and tan mottle and yellow glue; from locker area, 3 ft. east of west wall, 18 ft. south of north wall.	ND
T444A-970602-MS-002	Fibrous sealer from shower area, at SE corner 4 ft. from the floor.	ND
T444A-970602-MS-003	TSI vapor barrier mastic; from underside of trailer, at SW corner.	ND
T444A-970602-MS-006	Drywall; from locker area ceiling 5 ft. east of west wall, 14 ft. south of north wall.	ND

Note: ND means None Detected.

ASBESTOS LOCATION AND DESCRIPTION TABLE

TABLE 7.2.2 ASBESTOS LOCATION AND DESCRIPTION SUMMARY

TRAILER	DESCRIPTION AND LOCATION	% ASBESTOS
T690A	Approximately 5,700 sq. ft. of 12" off-white mosaic floor tile, located throughout the trailers, with the exception of the restrooms.	10% in tile, ND in mastic
	Approximately 13,500 sq. ft. of silver roof sealant, located over the entire roof area.	2%
	Approximately 350 sq. ft. of grey sheet vinyl flooring/backing, located in the restrooms.	70% in backing
T690B	Approximately 2,400 sq. ft. of tan floor tile, located under carpet throughout the trailers.	4%
	Approximately 130 sq. ft. of black roofing material, located at the base of roof jacks and on flashings.	13%
T690C	No asbestos building material discovered.-	
T690D	No asbestos building material discovered.	
T690E	No asbestos building material discovered.	
T690F	No asbestos building material discovered.	
T690G	Approximately 25 sq. ft. of roofing tar. dispersed.	
T690H	No asbestos building material discovered.	
T690J	No asbestos building material discovered.	
T690K	Approximately 600 sq. ft. of 12" tan floor tile, located throughout the trailer, interspersed with another pattern.	7% in tile.
T690L	No asbestos building material discovered.	
T690M	No asbestos building material discovered.	
T690N	No asbestos building material discovered.	
T371G	Approximately 100 sq. ft. of roofing tar, located at the joints and patch locations on the metal roof cover.	10%
T444A	No asbestos building material discovered.	

ATTACHMENT 7.3
ENVIRONMENTAL SURVEY DRAFT REPORT

**ENVIRONMENTAL SURVEY
DRAFT REPORT**

FOR

**J.A. JONES CONSTRUCTION SERVICES
T690A OFFICE TRAILERS
ROCKY FLATS**

Prepared by

**Gobbell Hays Partners, Inc.
747 Sheridan Blvd. Unit 8B
Lakewood, CO 80214
(303) 274-1211
GHP Project 98004.03**

May 9, 1998

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1.0 INTRODUCTION

In May 1998, Gobbell-Hays Partners, Inc. (GHP) conducted an asbestos and lead-containing paint inspection at the J.A. Jones Construction Services T890A Trailer Offices located at Rocky Flats. The purpose of the survey was to prepare for demolition and/or removal of the trailers from the Rocky Flats site.

The asbestos inspection was conducted according to guidelines set forth by the Asbestos Hazard Emergency Response Act (AHERA) and complies with the United States Environmental Protection Agency (USEPA), Occupational Safety and Health Administration (OSHA), and State of Colorado asbestos regulations.

The lead paint inspection was designed to identify painted surfaces that contain a "detectable" amount of lead in order to comply with OSHA's Lead Exposure in Construction; Interim Final Rule (29 CFR 1926.62).

The enclosed report includes the location, hazard assessment, and appropriate response action or recommendation for all identified asbestos containing materials (ACM), as well as the location and description of all lead-containing paint. Photo documentation of bulk sample materials with bulk sample numbers and laboratory analysis results of all acquired bulk samples are also included.

2.0 ASBESTOS SURVEY

2.1 Inspection Procedures

Bulk samples were collected to identify asbestos containing building materials (ACBM). Bulk samples were given unique identification numbers, consisting of three parts. The first letter, "B", designates the sample as a bulk asbestos sample. The second set of letters "96004.03" identifies the GHP project number. The last group of numerals identify the sequential sample number for this project.

A total of 33 bulk samples were collected from suspect asbestos containing building materials. The suspect materials included miscellaneous materials and thermal system insulation (TSI). Bulk asbestos samples were collected from inconspicuous areas so that extensive repairs would not be necessary.

All bulk samples were analyzed by Reservoirs Environmental Services, Inc. (RESI) of Denver, Colorado. RESI is accredited through the National Institute of Standards and Technology (NIST) and participates in the NIST National Voluntary Lab Accreditation Program (NVLAP) as required by the EPA. Bulk samples were analyzed by Polarized Light Microscopy (PLM) in compliance with guidelines established by the EPA (40 CFR Part 763, Subpart F, Appendix A). Asbestos concentrations were visually estimated and given in percent for each layer of the samples. Point Count analysis was required for some bulk samples.

2.2 Description and Hazard Assessment of ACM

2.2.1 Off-White, Mosaic 12"x12" Floor Tile

Remnant non-friable, ACM floor tiles were present under carpet throughout the west trailers and approximately 5,700 square feet of ACM floor tiles were present under carpet throughout the east trailers. Damage to the floor tiles must be assumed because many tiles had been removed. However, all tiles were covered by carpet and not exposed.

The EPA AHERA Hazard Assessment Category for the ACM floor tile is "damaged miscellaneous ACBM". The appropriate response action is to periodically inspect the ACM for change in condition or remove the ACM floor tiles following proper abatement procedures if they would be disturbed during any renovation activities. The ACM floor tiles may remain in place if demolition occurs provided all requirements of OSHA's 29 CFR 1926.1101 are followed and the material remains non-friable.

2.2.2 Silver Roof Sealant

There were approximately 13,500 square feet of non-friable, ACM silver sealant material on the roofs of all trailers. The ACM was in good condition at the time of inspection.

The EPA AHERA Hazard Assessment Category for the ACM sealant material is miscellaneous "ACBM with potential for damage". The ACM roof coating may remain in place if demolition occurs provided all requirements of OSHA's 29 CFR 1926.1101 are followed and the material remains non-friable.

2.2.3 Gray Sheet Vinyl Backing

There were approximately 350 square feet of non-friable ACM sheet vinyl floor covering in the restrooms of the east trailers. The ACM was in good condition at the time of inspection.

The EPA AHERA Hazard Assessment Category for the ACM sheet vinyl is miscellaneous "ACBM with potential for damage". The appropriate response action is to periodically inspect the ACM for change in condition or remove the ACM sheet vinyl following proper abatement procedures prior to demolition activities.

2.3 Asbestos Regulatory Review and Recommendations

2.3.1 Demolition

The Colorado Department of Health, Regulation 8, Part B, requires that notification be given to the Colorado Pollution Control Division of the intent to demolish, renovate, or perform asbestos abatement in any building, structure, facility or installation which contains asbestos in any amount that exceeds 160 square feet, 260 linear feet or the equivalence of a 55 gallon drum, whether friable or not.

The EPA National Emissions Standard for Hazardous Air Pollutants (NESHAP) regulation requires that ACM be identified prior to demolition and renovation activities. NESHAP requires that no friable ACM be disturbed during these construction activities.

The October 11, 1994 revision to the Occupational Safety and Health Administration Construction Standard (29 CFR 1926.1101) applies to demolition or salvage of

structures where asbestos is present, removal or encapsulation of materials containing asbestos, and transportation, disposal, storage, containment of, and housekeeping activities involving asbestos. The Standard requires that suspect ACM in buildings built prior to 1980 be assumed to be asbestos or an inspection be conducted in accordance with AHERA.

The OSHA Construction Standard separates asbestos work into four (4) classes, each class representing increased hazards, and provides regulations for each class, including exposure assessments, respiratory protection, protective clothing, hygiene facilities, and administrative requirements. Class I involves the removal of TSI and surface applied materials. Class II involves the removal of all other ACM including roofing, siding, and floor coverings. Class III involves repair and maintenance operations where ACM is likely to be disturbed. Class IV covers maintenance and custodial activities during which employees contact ACM.

Based on the asbestos inspection performed by GHP, Class II requirements outlined in 29 CFR 1926.1101 will apply to demolition of the office trailers. Requirements include but are not limited to the following: 1) The area shall be demarcated as a regulated area in any manner that minimizes the number of persons within the area and protects persons outside the area from exposure; 2) All asbestos work performed within the regulated area shall be supervised by a competent person; 3) An initial exposure assessment shall be conducted for workers involved in demolition where ACM roofing materials or floor coverings are disturbed; 4) Roofing material shall be removed intact to the extent feasible; 5) Wet methods shall be employed where feasible; and 6) If cutting machines are used on roofing materials, they shall be continuously misted during use, unless a competent person determines that misting substantially decreases worker safety. All loose dust left by sawing operations on roofing materials must be HEPA vacuumed immediately.

2.3.2 Disposal

Demolition debris that contains non-friable, tar-impregnated ACM roofing materials or ACM floor tiles is not regulated by the Colorado Department of Health and Environment.

3.0 LEAD-CONTAINING PAINT SURVEY

3.1 Inspection Procedures

Bulk paint samples were collected to identify major sources of lead containing paint. All samples were given unique identification numbers, consisting of three parts. The first letters "BL" designate the sample as a bulk lead sample. The second set of numbers "96004.03" identifies the GHP project number. The last set of numerals identify the sequential sample number for this project.

A total of 24 bulk paint samples were collected in this survey (see Appendix C for bulk paint sample inventory and lab results). All bulk samples were submitted to Reservoirs Environmental Services, Inc. (RESI) of Denver, Colorado, a third party independent laboratory. RESI is properly accredited for bulk paint analysis through the American Industrial Hygiene Association. Bulk paint samples were analyzed with Atomic Absorption Spectrometry (EPA Method SW 846-3050A/7420). Where a precise sample area could be defined and substrate material was included in the sample, such as on drywall substrates, the laboratory results are reported in mg/cm². Where a precise sample area could not be defined and no substrate material was included in the sample, such as on metal surfaces, the laboratory results are reported in percent.

3.2 Location and Description of Lead-Containing Paint

Lead-containing paint is defined in this survey as paint that contains lead in concentrations above the detection limit of Atomic Absorption Spectrometry - Flame Analysis. Lead-containing paint was identified and described by the color which was exposed at the surface of the painted material. However, other colors of paint which are covered by the exterior layer may have contributed to the lead concentration. Sample inventory and laboratory results are included in Appendix C. Detectable concentrations of lead were identified as follows:

3.2.1 Off-White

3.2.1.1 A low concentration of lead was detected on off-white painted ceiling surfaces throughout the west trailers.

3.2.2 White

3.2.2.1 A low concentration of lead was detected on white painted doors and door frames throughout the east and west trailers.

- 3.2.2.2 A low concentration of lead was detected on white painted siding and skirting on the west trailers.
- 3.2.2.3 A low concentration of lead was detected on white painted skirting on the east trailers.
- 3.2.3 Red
 - 3.2.3.1 A low concentration of lead was detected on red painted walls and columns at fire extinguisher locations throughout the east and west trailers.
- 3.2.4 Yellow
 - 3.2.4.1 A high concentration of lead was detected on yellow painted stair step and rail surfaces at entrance vestibules.
- 3.2.5 Gray
 - 3.2.5.1 A low concentration of lead was detected on gray painted entrance doors at the middle access area.

3.3 Lead Paint Regulatory Review and Recommendations

3.3.1 Demolition

In June, 1995, the U.S. Department of Housing and Urban Development (HUD) published the *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing* pursuant to Title X of the Housing and Community Development Act of 1992. This document replaced the 1990 publication, *Lead-Based Paint: Interim Guidelines for Hazard Identification and Abatement in Public and Indian Housing*. The new publication addresses lead hazards posed by paint, dust, and soil in the residential environment. It provides specific guidelines for XRF and bulk paint sampling in housing including sample locations, sample collection procedures, and laboratory analysis procedures. In addition, it provides guidelines for hazard assessment of lead-based paint, abatement of lead-based paint, and clearance sampling. The Guidelines define lead-based paint as paint that contains 1.0 milligrams of lead per square centimeter of surface area. Although the Guidelines act as a good reference for lead paint inspections, they do not apply to non-HUD homes and are not enforceable by law unless a Federal, State, or local statute requires adherence to certain parts of the publication.

OSHA's CFR 1928.62 applies to the disturbance or demolition of components that contain lead in detectable quantities. Therefore, the employee protection and safety precautions as outlined by CFR 1928.62 must be initiated if any of the lead-containing painted surfaces identified in this report are physically disturbed during moving procedures or demolition activities. CFR 1928.62 applies to construction activities where an employee may be exposed to lead. This includes but is not limited to the following:

- Demolition or salvage of structures where lead or materials containing lead are present.
- Removal or encapsulation of materials containing lead.
- New construction, alteration, repair, or renovation of structures, substrates, or portions thereof, that contain lead, or materials containing lead.

The regulation states that where lead containing coatings or paint are present, an initial employee exposure assessment must be conducted when any of the following activities take place: 1) manual demolition of structures, 2) manual scraping, 3) manual sanding, 4) heat gun applications, 5) power tool cleaning, 6) abrasive blasting, 7) welding, 8) cutting, and 9) torch burning. The employee exposure assessment includes air monitoring for airborne lead levels above the action level of 30 micrograms/cubic meter or permissible exposure limit (PEL) of 50 micrograms/cubic meter. During the employee exposure assessment, the employer is required to implement the following protective measures: 1) appropriate respiratory protection designed for airborne lead levels up to at least ten times the PEL, 2) personal protective clothing, 3) clean change areas equipped with separate storage facilities for protective work clothing and equipment and street clothes, 4) hand washing facilities, 5) initial biological monitoring in the form of employee blood sampling, and 6) lead hazard training. In addition, the regulation requires engineering and work practice controls, written compliance programs, and medical surveillance of employees.

3.3.2 Disposal


The primary Federal statute governing non-hazardous and hazardous waste disposal is the Resource Conservation and Recovery Act (RCRA). According to RCRA, where lead-containing paint is present, a waste characterization should be performed prior to disposal. Waste characterization includes paint sample collection and laboratory analysis using the Toxicity Characteristic Leaching Procedure (TCLP) method as outlined by EPA's 40 CFR 261.24. Characterization of lead-containing paint is also described in Appendix XI of EPA's Region II Technical Assistance Document for Complying with the TCLP Rule. The painted building materials must be considered toxic waste and disposed of in the appropriate manner if the TCLP results in extraction of lead above five parts per million.

APPENDIX A


CERTIFICATIONS


STATEMENT OF CERTIFICATION

The lead-containing paint inspection was conducted by Mr. Patrick Cleveland of Gobbell-Hays Partners, Incorporated. Mr. Cleveland has been trained and certified in lead-based paint inspection procedures.

Signed: 

The asbestos inspection was conducted by Mr. Michael Schluterbush of Gobbell-Hays Partners, Incorporated. Mr. Schluterbush has been trained and certified by EPA and the State of Colorado as an asbestos building inspector.

State of Colorado Certification Number: 

EPA-AHERA Accreditation Number: 

Signed: _____

APPENDIX B
BULK ASBESTOS SAMPLE INVENTORY
AND
LABORATORY RESULTS

**J.A. JONES CONSTRUCTION SERVICES
T690A OFFICE TRAILERS
BULK ASBESTOS SAMPLE INVENTORY**

SAMPLE #	DESCRIPTION/LOCATION	ASBESTOS CONTENT	POINT COUNT
B-96004.03-01	LT GRAY 4" COVE BASE AND TAN ADHESIVE - TRAILER #1, NW CORNER OFFICE, W. WALL, 4' FROM NE CORNER	A. ND	
B-96004.03-02	LT GRAY FABRIC PANEL, FIBROUS FILL, AND TAN ADHESIVE - TRAILER #1, NW CORNER OFFICE, W. WALL, 20' FROM N. WALL, 3' ABOVE FLOOR	A. ND	
B-96004.03-03	CREAM DUCT COVER - TRAILER #3, ROOF, 5' FROM S. EDGE, ON HVAC DUCT	A. ND	
B-96004.03-04	SILVER COATING MATERIAL (A) AND BLACK TAR (B) - TRAILER #4, ROOF, 4' FROM S. EDGE	A. 2% B. TR	
B-96004.03-05	SILVER COATING MATERIAL (A), WHITE RESINOUS PATCH MATERIAL (B), AND BLACK TAR (C) - TRAILER #11, ROOF, 15' FROM N. EDGE	A. 4% B. ND C. ND	Pending
B-96004.03-06	TAN CAULK - TRAILER #8, 6' FROM N. EDGE, ON ROUND DUCT	A. ND	
B-96004.03-07	CREAM 12"x12" FLOOR TILE (A) AND TAN ADHESIVE (B) - TRAILER #5, AT ENTRANCE TO MEN'S RESTROOM	A. ND B. ND	
B-96004.03-08	GRAY COVE BASE AND TAN ADHESIVE - TRAILER #5, MEN'S RESTROOM, E. WALL	A. ND	
B-96004.03-09	CREAM WALL PANEL ADHESIVE - TRAILER #5, CORRIDOR ADJACENT TO MEN'S RESTROOM, S. WALL, 4.5' ABOVE FLOOR, BEHIND WALL PANEL	A. ND	
B-96004.03-10	MOSAIC 12"x12" FLOOR TILE (A) AND TAN ADHESIVE (B) - TRAILER #8, N. END, 7' FROM E. WALL, 3' FROM N. WALL, UNDER CARPET	A. 10% B. ND	
B-96004.03-11	MOSAIC 12"x12" FLOOR TILE (A) AND BLACK ADHESIVE (B) - TRAILER #10, MIDDLE AREA, 14' FROM S. WALL, AT E. EDGE OF TRAILER JOINT, UNDER CARPET	A. 8% B. ND	

ND = NONE DETECTED

**J.A. JONES CONSTRUCTION SERVICES
T690A OFFICE TRAILERS
BULK ASBESTOS SAMPLE INVENTORY**

SAMPLE #	DESCRIPTION/LOCATION	ASBESTOS CONTENT	POINT COUNT
B-98004.03-12	BROWN COVE BASE AND CLEAR ADHESIVE - TRAILER #11, MAIN AREA, S. WALL, 4' E. OF M. LITTLETON OFFICE DOOR	A. ND	
B-96004.03-13	SMALL MOSAIC PATTERN SHEET VINYL (A) AND GRAY BACKING MATERIAL (B) - TRAILER #13, MEN'S RESTROOM, AT ENTRANCE	A. ND B. 70%	
B-98004.03-14	WHITE CEILING TILE - TRAILER #4, 22' FROM S. WALL, BEHIND CEILING DIFFUSER	A. ND	
B-98004.03-15	OFF-WHITE CEILING TILE - TRAILER #1, 8' E. OF SW ENTRANCE	A. ND	
B-98004.03-18	DRYWALL - TRAILER #1, AT ENTRANCE TO SW OFFICE, E. SIDE OF DOOR JAMB	A. ND	
B-96004.03-17	WHITE/GOLD MASONITE PANEL - TRAILER #6, JANITOR'S CLOSET, W. WALL, 4' FROM ABOVE FLOOR	A. ND	
B-96004.03-18	LT BEIGE WALL PANEL - TRAILER #5, MEN'S RESTROOM, E. WALL, BASE OF N. URINAL	A. ND	
B-98004.03-19	LT GRAY, 1'X1' CEILING TILE (A) AND BROWN (B) ADHESIVE - TRAILER #5, OFFICE JUST S. OF MEN'S ROOM, 3' FROM S. WALL	A. ND B. ND	
B-98004.03-20	DRYWALL - TRAILER #8, W. WALL, 7' N. OF W. ENTRANCE	A. ND	
B-96004.03-21	DRYWALL (A) AND JOINT COMPOUND (B) - MIDDLE MAIN ACCESS AREA, 1ST ROOM FROM SOUTH, SE CORNER	A. ND B. ND	
B-96004.03-22	DRYWALL (A) AND JOINT COMPOUND (B) - MIDDLE MAIN ACCESS AREA, W. WALL, 25' FROM S. ENTRANCE	A. ND B. ND	
B-98004.03-23	DRYWALL (A) AND JOINT COMPOUND (B) - MIDDLE MAIN ACCESS AREA, W. WALL, 20' FROM N. ENTRANCE	A. ND B. ND	

ND = NONE DETECTED

**J.A. JONES CONSTRUCTION SERVICES
T690A OFFICE TRAILERS
BULK ASBESTOS SAMPLE INVENTORY**

SAMPLE #	DESCRIPTION/LOCATION	ASBESTOS CONTENT	POINT COUNT
B-96004.03-24	WHITE CEILING TILE WITH RANDOM GROOVES - TRAILER #9, CONFERENCE ROOM 1, 4' FROM S. ENTRANCE	A ND	
B-96004.03-25	WHITE CEILING TILE WITH ROUGH TEXTURE AND LONGITUDINAL GROOVES - TRAILER #10, MAIN E-W CORRIDOR, 10' FROM E. ENTRANCE	A ND	
B-96004.03-28	DRYWALL - TRAILER #10, E. WALL, 2' FROM NE CORNER	A ND	
B-96004.03-27	DRYWALL - TRAILER #14, E. WALL, 12' FROM NE CORNER	A ND	
B-96004.03-28	OFF-WHITE ACOUSTIC WALL PANEL - TRAILER #18, N. WALL, 3' FROM NW CORNER	A ND	
B-96004.03-29	CREAM VAPOR BARRIER MASTIC - CRAWLSPACE BENEATH W. TRAILERS, 20' E. OF N. ACCESS, 8' FROM N. SKIRTING, ON PIPE TSI	A ND	
B-96004.03-30	CREAM VAPOR BARRIER MASTIC - CRAWLSPACE BENEATH W. TRAILERS, 12' E. OF N. ACCESS, 15' FROM N. SKIRTING, ON PIPE TSI	A ND	
B-96004.03-31	CREAM VAPOR BARRIER MASTIC - CRAWLSPACE BENEATH W. TRAILERS, 15' E. OF N. ACCESS, 8' FROM N. SKIRTING, ON PIPE TSI	A ND	
B-96004.03-32	CREAM DUCT WRAP - TRAILER #2, ROOF, 6' FROM S. EDGE, ON TOP OF HVAC DUCT	A ND	
B-96004.03-33	CREAM DUCT WRAP - ROOF, E. JUNCTURE OF TRAILER #2 AND #3, 6' FROM S. EDGE, BOTTOM OF HVAC DUCT	A ND	

ND = NONE DETECTED

APPENDIX C

**BULK PAINT SAMPLE INVENTORY
AND
LABORATORY RESULTS**

**J.A. JONES CONSTRUCTION SERVICES
T890A OFFICE TRAILERS
BULK PAINT SAMPLE INVENTORY**

SAMPLE #	DESCRIPTION/LOCATION	LAB RESULT
BL-98004.03-01	YELLOW WOOD - NORTHWEST CORNER ENTRANCE, STEP BALLISTER	0.002 mg/cm2
BL-98004.03-02	WHITE WOOD - NORTHWEST CORNER ENTRANCE, EXTERIOR VESTIBULE, WEST WALL	0.002 mg/cm2
BL-98004.03-03	WHITE METAL - NORTHWEST CORNER ENTRANCE, EXTERIOR DOOR	BDL
BL-98004.03-04	BROWN METAL (OLIVE UNDERCOAT) - SOUTHWEST CORNER ENTRANCE, INTERIOR TRAILER DOOR, DOOR FRAME	BDL
BL-98004.03-05	OFF-WHITE DRYWALL - WEST TRAILER, MAIN AREA, CEILING, 8' FROM WEST WALL, 4' FROM SOUTH WALL	0.011 mg/cm2
BL-98004.03-06	WHITE METAL - MIDDLE ACCESS AREA, NW ENTRANCE DOOR TO WEST TRAILERS	0.151 %
BL-98004.03-07	GRAY METAL - SW MEN'S ROOM, STALL PARTITION PANEL	BDL
BL-98004.03-08	WHITE DRYWALL - SW MEN'S ROOM, CEILING, 1' FROM NORTH WALL, 3' FROM EAST WALL	0.010 mg/cm2
BL-96004.03-09	GRAY WOOD - MIDDLE ACCESS AREA, BASEBOARD OF EAST WALL, 20' FROM SOUTH ENTRANCE	BDL
BL-96004.03-10	RED WOOD - MIDDLE ACCESS AREA, NEAR EAST TRAILER ENTRANCE ON SUPPORT COLUMN	0.017 mg/cm2
BL-96004.03-11	WHITE DRYWALL - MIDDLE ACCESS AREA, WEST WALL, 30' FROM SOUTH ENTRY	BDL
BL-98004.03-12	WHITE WOOD - TRAILER #9, NORTH WALL, 10' FROM SW CORNER	BDL
BL-98004.03-13	WHITE PARTICLE BOARD - TRAILER #9, CEILING, 10' FROM SOUTH WALL, 8' FROM WEST WALL	BDL
BL-96004.03-14	WHITE METAL (OLIVE UNDERCOAT) - TRAILER #11, DOOR TO ROOM 25, WEST OF MEN'S ROOM	BDL
BL-96004.03-15	OFF-WHITE DRYWALL - TRAILER #15, WEST WALL, 20' FROM SOUTH WALL	BDL

BDL = BELOW DETECTION LIMIT

PC c:\wpdocs\jones\9800403.wpd

DRAFT REPORT

ATTACHMENT 7.4

**RECONNAISSANCE LEVEL CHARACTERIZATION PLAN FOR THE T690 CLUSTER
TRAILER REMOVAL PROJECT**



Rocky Mountain
Remediation Services, L.L.C.
. . . protecting the environment

RF/RMRS-97-037

Reconnaissance Level Characterization Plan For The T690 Cluster Trailer Removal Project

July 1997

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REVIEWED FOR CLASSIFICATION/LCNI
By [Signature]
Date 8/4/97

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ACRONYMS

AHA	Activity Hazard Analysis
Be	Beryllium
DOE	U. S. Department of Energy
DOP	Decommissioning Operations Plan
DQO	Data Quality Objective
EPA	U. S. Environmental Protection Agency
IWCP	Integrated Work Control Program
OSHA	Occupational Safety and Health Administration
RESI	Reservoirs Environmental Services, Inc.
RFETS	Rocky Flats Environmental Technology Site
RLC	Reconnaissance Level Characterization
RLCR	Reconnaissance Level Characterization Report
RMRS	Rocky Mountain Remediation Services, L.L.C.
RWP	Radiological Work Permit
SEG	Scientific Ecology Group
SOW	Statement of Work

1. INTRODUCTION

The Department of Energy (DOE) has established a goal of reducing the total built square footage at Rocky Flats Environmental Technology Site (RFETS) by 2% in fiscal year 1997 (FY'97). The T690 Cluster was chosen for removal as a part of the 2% reduction.-1

The T690 Cluster, as referred to through out the remainder of this document, is comprised of 15 single and multi-unit trailers and wooden shed as identified below:

T690A	16-UNITS	Divided Into Offices
T690B	5-UNITS	Divided Into Offices
T690C	SINGLE UNIT	Divided Into Offices
T690D	SINGLE UNIT	Divided Into Offices
T690E	2-UNITS	Divided Into Offices
T690F	SINGLE UNIT	Divided Into Offices
T690G	2-UNITS	Divided Into Offices
T690H	SINGLE UNIT	Divided Into Offices
T690J	SINGLE UNIT	Lab Facility
T690K	SINGLE UNIT	Lab Facility
T690L	SINGLE UNIT	Storage Area
T690M	2-UNITS	Divided Into Offices
T690N	3-UNITS	Divided Into Offices
T371G	2-UNITS	Divided Into Offices
T444A	SINGLE UNIT	Shower Facility
B663C	WOODEN SHED	Maintenance Area

The T690 Cluster Removal Project will:

- Relocate T690N and T690J,
- Demolish and remove T690A,
- Remove the remaining trailers from RFETS,
- Demolish and remove B663C, and
- Cleanup and remove material from the adjacent 662 and 663 lay down yards (see Site Map, Figure 1-1).

1.1 PURPOSE

The purpose of this characterization plan is to outline the data requirements and methodology for characterization of the T690 Cluster. The characterization effort identifies the type, quantity, condition, and location of radioactive and hazardous materials which are, or which may be, present as residual contamination in the subject facilities. The compilation of facility information contained herein, in conjunction with the T690 Cluster project files established during this investigation, brings together pertinent data from various sources to serve as a practical reference for project use during the decontamination and decommissioning efforts.

1.2 SCOPE

This document was prepared using the draft Decommissioning Protocol procedure to ensure the data quality objective (DQO) process was used in determining sampling/survey requirements. The information presented in this plan specifically pertains to the T690 Cluster; the review of historical records and the collection of process knowledge information covers the operational time period for the facility from original construction to present. The T690 Cluster was gradually installed between 1963 and 1986.

The scope of this document is to gather enough characterization information to develop the T690 Cluster Reconnaissance Level Characterization Report (RLCR).

1.3 DATA LIFE CYCLE

There are three aspects of the data life cycle that apply to the characterization process: Planning, Implementation, and Assessment. To produce a usable document (i.e., Reconnaissance Level Characterization Report) each of the three must be applied in sequence.

The planning process uses the data quality objectives (DQOs) (See section 2.1) to determine data needs, quality and survey design. This document is the initial planning phase for characterization activities.

The second phase of the characterization process is implementation. This phase includes the assessment of historical documentation concerning the operations of the facilities and any associated chemical or radiological inventory. Additionally, a physical survey is accomplished using the design as outlined during the planning phase.

The final phase of the life cycle is the assessment of information gathered during the implementation phase. The data is evaluated against the DQO criteria and a report is developed that outlines results and conclusions.

The following section is the result of the planning process for the T690 Cluster.

2.0 PLANNING

To ensure the collection of usable data it is necessary to formulate the objectives of the project. For this plan, the DQO process was used by answering questions designed to go through the seven step process for a decommissioning project. The results of this DQO process are presented in the following sections.

2.1 CHARACTERIZATION OBJECTIVES

The reconnaissance level characterization (RLC) objectives are based on questions presented in Sections 6.0 and 6.1 of the draft "Decommissioning Characterization Protocols".

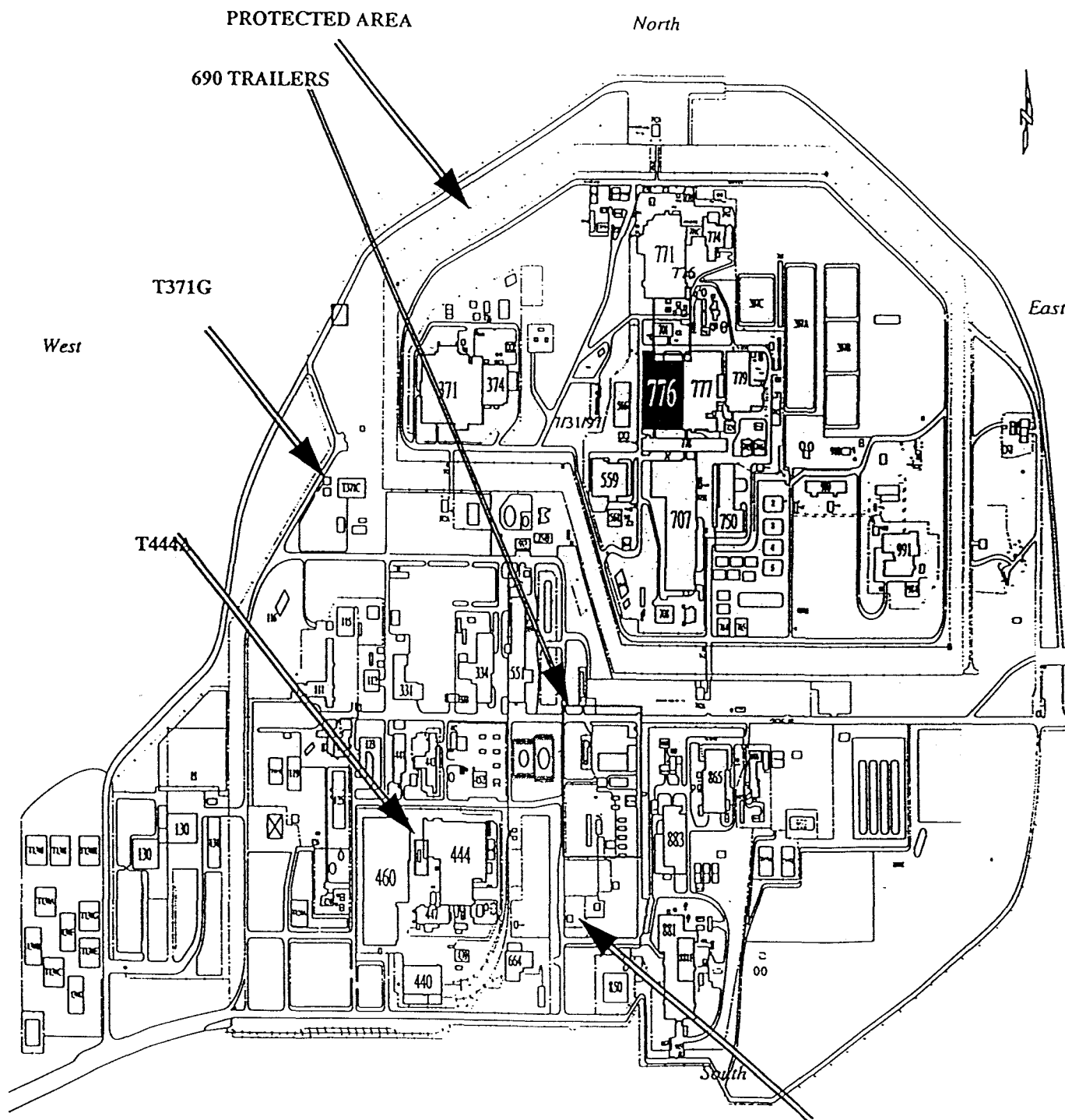
This plan was developed to specify the data collection requirements necessary to provide a baseline of information for use during decommissioning activities. The information obtained by implementing this plan will be compiled into the Reconnaissance Level Characterization Report (RLCR). Ultimately, the data may be used to determine the risks to the environment and personnel during these activities (dismantling, decommissioning, etc.).

The following questions and answers were used to develop the sampling requirements for this project.

1. What Is the end use of the facility or structure?

- T690A and B663C will be demolished and the debris will be put in the RFETS landfill.
- T690J and T690N trailers are to be relocated at RFETS.
- The remaining trailers will be made road worth and removed from RFETS. The removed trailers will be reused by another government agency.

FIGURE 1-1 SITE MAP
The 690 Trailer Cluster



2. What types of chemical, physical/biological, or radiological hazard is being evaluated?

The following hazards were evaluated for their presence in the B690 Cluster:

Asbestos
PCBs
Excess Chemicals
Lead
Beryllium
Radioactive materials

3. What level of worker protection is required to perform characterization in the facility, structure or environs?

No special protective clothing will be worn to remove the trailers contents or complete radiation surveys. Safety shoes and safety glasses will be worn for all decommissioning activities. Other protective measures are identified in the job specific Radiological Work Permit (RWP) or Activity Hazard Analysis (AHA).

No unique or special protective clothing is required.

4. What type of instrumentation is required?

Radiological instrumentation is identified in Appendix B.

The other materials will be analyzed in a laboratory. The specific instrumentation is identified in the applicable lab procedures.

5. Has all facility structural data been reviewed?

All the available historical and facility information has been reviewed. A copy of this information is in the project file.

6. Have all suspect materials been identified?

Yes. Additional characterization of the suspected material is identified in this plan.

7. Are there any regulatory and statistical drivers for sampling frequency?

There are no known statistical drivers for sampling frequency for reconnaissance level information.

8. Why is this characterization information being obtained?

The reconnaissance level characterization information is being obtained to establish a baseline of hazards within the T690 Cluster. The baseline information will be summarized and presented to the DOE/RFFO in a Reconnaissance Level Characterization Report. The DOE/RFFO uses the RLCR to determine the need for a Decommissioning Operations Plan (DOP).

9. What decisions will be made from use of the data obtained for this plan?

The decision which will be made using this information is:

Is a DOP required (or not) for the T690 Cluster?

The information will also be used to identify decontamination and abatement requirements.

10. What Information Is required to make the decision?

A baseline of the hazards within the T690 Cluster is required. The types of hazards are identified in the answer to Question #2.

11. What Is the scope of this data gathering effort?

This scope of this characterization is identified within the individual hazard discussions. (See Section 3).

12. What is the basis for the decision?

The decision to require a DOP is somewhat arbitrary. It is based on the perceived risk associated with the identified hazards. The decision is made by the DOE/RFFO.

13. What are the limits on decision errors?

This question does not apply to the reconnaissance level characterization. Since there is no specified criteria or limits on which decisions are based.

14. How will the survey design be optimized?

If the DOE/RFFO decides they do not have enough characterization information (based on their review of the RLCR), additional information will be requested.

3.0 IMPLEMENTATION

This section provides information necessary to implement the requirements of the planning (DQO) task of this project.

3.1 HISTORICAL ASSESSMENT

An examination of trailer construction materials and facility use was conducted in May 1996 and is summarized in the referenced reports. A follow-up survey was conducted to verify the accuracy of the initial survey, and to determine the need of additional sampling. As part of the examination, a comprehensive survey was conducted to determine the location and character of potentially hazardous contaminants present in the building materials.

Based on the review of available historical information and discussions with past and current residents of the T690 Cluster facilities, it was determined that minimal additional sampling and surveys are required. The sampling and survey requirements are stated in the following sections.

3.1.1 Asbestos

In May 1996, Gobbell-Hays Partners, Inc. performed an asbestos and lead inspection of the T690A trailer offices. The purpose of the survey was to prepare for the demolition and/or removal of the multi-unit trailer. A follow-up survey of all trailer units was conducted by Rocky Mountain Remediation Services, L. L. C. (RMRS) project team members to verify the initial survey data and identify areas in need of additional sampling. All potential Asbestos Containing Materials (ACM) will be reevaluated and sampled according to guidelines established by the Asbestos Hazard Emergency Response Act (AHERA). Samples will be submitted to Reservoirs Environmental Services, Inc. (RESI) for analysis by Polarized Light Microscopy (PLM). The follow-up survey will be completed by a certified building inspector.

3.1.2 Lead Paint

Bulk paint samples collected in May 1996 were submitted to RESI for lead analysis utilizing Atomic Absorption Spectroscopy (EPA method SW846-3050A/7420). As part of a comprehensive survey of T690A, Gobbell-Hays Partners sampled interior and exterior paints for lead. The results are attached. In summary, the ceilings, window and door frames in the interior had detectable levels of lead in the paint. In addition, safety related red, yellow and grey paints contain lead at detectable levels. The skirting and siding were also found to have lead in the paint. Based on these findings, it is prudent and economical to assume that trailers B, C, D, E, F, G, H, J, K AND L have paint with detectable levels of lead since the manufacturers and landlords were the same. Trailers M and N and 371G are exempt due to later than 1981 construction dates. Trailers T444A has detectable lead in both interior and exterior paints.

3.1.3 Beryllium

Based on a review of historical data, there is no evidence that beryllium (Be) was used in the T690 Cluster. Therefore no Be sampling will be required under this plan.

3.1.4 Radioactive materials

There are no areas within the T690 Cluster which are suspected to contain radioactive contamination. However, biased radiological surveys will be accomplished in accordance with characterization instructions (Appendix A).

Radiological instrumentation (portable and fixed) for making direct field measurements and laboratory analysis respectively will be utilized during characterization activities. Instrumentation which is reliable, suited to the physical conditions at the site, and capable of detecting the radiations of concern (at the required detection levels) will be chosen. Instrumentation which may be used for this project is presented in Appendix B. Additional equivalent instrumentation may be used if approved by radiological engineering.

3.1.5 Hazard Assessment

An assessment of the hazards that may be encountered during specific decommissioning activities has been performed through walkdowns and job safety analyses. This information will be incorporated into the planning process of each activity to ensure maximum protection of the worker.

3.1.6 Hazardous Waste

At this time there are no hazardous waste being stored in the facilities. Hazardous product material identified during the walk-downs will be removed prior to the start of decommissioning.

3.1.7 Polychlorinated biphenyls (PCBs)

PCBs may be present in fluorescent light ballast. The fluorescent lights and ballast will be removed and disposed of according to RFETS procedures as required.

3.1.8 Excess Chemicals

Although there were hazardous chemicals in the T690 Cluster facilities, all excess and hazardous chemicals have been removed from the T690 Cluster facilities during the deactivation process with the exception of some paints and cleaning solvents, which will be disposed of by the subcontractor. Because the chemicals have been removed and there are no known areas which have a buildup of chemical residue, no special chemical characterization is anticipated. Should a chemical be found during the decommissioning process, the chemical will be handled in accordance with existing chemical identification and handling procedures. There are no RCRA units associated with this project, therefore; no closure plans are required.

4.0 ASSESSMENT

The assessment stage of the T690 Cluster data life cycle will include an evaluation of data and any conclusions that may be drawn from the data. The information collected will be detailed in the characterization report.

4.1 DATA EVALUATION

The data will be evaluated for completeness and adherence to the appropriate protocols.

5.0 REFERENCES

DOE/EM-0142P - Decommissioning Handbook

Decommissioning Characterization Protocols (June, 1997) (Draft)

MARSSIM - Multi-Agency Radiation Survey and Site Investigation Manual (Draft)

NUREG/CR5849 - Manual for Conducting Radiological Surveys in Support of License Termination (Draft)

RECONNAISSANCE LEVEL
CHARACTERIZATION PLAN FOR THE T690
CLUSTER OFFICE TRAILER REMOVAL

RF/RMRS-97-037
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Date Effective: 07/23/97

APPENDIX A RADIOLOGICAL SURVEY INSTRUCTIONS

Best Available Copy

Radiological Survey		Survey Instructions	
Item/Area Description	# of Alpha/Beta Swipes	# of Direct Alpha/Beta Measurements	Survey
T-490A	10 biased measurements on floor surfaces	10 biased measurements on floor surfaces	N/A
T-490B	10 biased measurements on floor surfaces	10 biased measurements on floor surfaces	N/A
T-490C	5 biased measurements on floor surfaces	5 biased measurements on floor surfaces	N/A
T-490D	5 biased measurements on floor surfaces	5 biased measurements on floor surfaces	N/A
T-490E	5 biased measurements on floor surfaces	5 biased measurements on floor surfaces	N/A
T-490F	5 biased measurements on floor surfaces	5 biased measurements on floor surfaces	N/A
T-490G	5 biased measurements on floor surfaces	5 biased measurements on floor surfaces	N/A
T-490H	5 biased measurements on floor surfaces	5 biased measurements on floor surfaces	N/A
T-490I	5 biased measurements on floor surfaces	5 biased measurements on floor surfaces	N/A
T-490J	5 biased measurements on floor surfaces	5 biased measurements on floor surfaces	N/A
T-490K	5 biased measurements on floor surfaces	5 biased measurements on floor surfaces	N/A
T-490L	5 biased measurements on floor surfaces	5 biased measurements on floor surfaces	N/A
T-490M	5 biased measurements on floor surfaces	5 biased measurements on floor surfaces	N/A
T-490N	5 biased measurements on floor surfaces	5 biased measurements on floor surfaces	N/A
T-490O	5 biased measurements on floor surfaces	5 biased measurements on floor surfaces	N/A
T-490P	5 biased measurements on floor surfaces	5 biased measurements on floor surfaces	N/A
T-490Q	5 biased measurements on floor surfaces	5 biased measurements on floor surfaces	N/A
T-490R	5 biased measurements on floor surfaces	5 biased measurements on floor surfaces	N/A
T-490S	5 biased measurements on floor surfaces	5 biased measurements on floor surfaces	N/A
T-490T	5 biased measurements on floor surfaces	5 biased measurements on floor surfaces	N/A
T-490U	5 biased measurements on floor surfaces	5 biased measurements on floor surfaces	N/A
T-490V	5 biased measurements on floor surfaces	5 biased measurements on floor surfaces	N/A
T-490W	5 biased measurements on floor surfaces	5 biased measurements on floor surfaces	N/A
T-490X	5 biased measurements on floor surfaces	5 biased measurements on floor surfaces	N/A
T-490Y	5 biased measurements on floor surfaces	5 biased measurements on floor surfaces	N/A
T-490Z	5 biased measurements on floor surfaces	5 biased measurements on floor surfaces	N/A

NOTES

1 See attached map of building layout.
2 Surveys to be performed in accordance with 4-K62-ROI-03.01, "Performance of Surface Contamination Surveys." Other radiological references are 1-P73-HSP, 18.10, "Radioactive Material Transfer and Unrestricted Release of Property and Waste", 4-S13-ROI-03.02, "Radiological Requirements for Unrestricted Release", and 4-N83-REP-1108, "Radioactive Material Management Area (RMOMA) Determination".

REVIEW AND APPROVAL

Prepared By: [Signature] Date: 6/15/97
Reviewed By: [Signature] Date: 6/18/97

**APPENDIX B
RADIOLOGICAL INSTRUMENTATION**

Instrument	Count Type	Allowable Background Counts	Acceptable Application	MDA (dpm/100 cm ²)
Bicron w/ A100 Probe	60 sec. (alpha)	2	Direct Alpha Surveys	55
Bicron w/ B50 Probe	60 sec. (beta)	250	Direct Beta Surveys	610
NE Electra W/ DP6 Probe	60 sec. (alpha)	2	Direct Alpha Surveys	60
	60 sec. (beta)	700	Direct Beta Surveys	455
Eberline SAC-4	60 sec. (alpha)	1	Removable Alpha Swipes	18
Eberline BC-4	60 sec. (beta)	200	Removable Beta Swipes	205
LB-5100LW	60 sec. (alpha)	0.5	Simultaneous Removable Alpha and Beta Swipes	20
	60 sec. (beta)	4		35